National Database For Emergency Management

Achievements

2023
NDEM v4.1
- Enhanced Disaster Dashboard
- Forest Fire / Lightning Alerts
- SMS alerts to stake holders
- Terrain / 3D Visualization

2021
NDEM v4
- Regional Languages Support
- More DSS Tools & PDNA Tools
- Regional Training Programs
- Public Access to Disaster Layers

2018
- Customized Portals for States
- Regional Training Programs

2017
NDEM v3
- Disaster Dashboard
- MoUs With States
- 3 SKOCH Awards

2016
- Customized NDEM-NDRF Portal

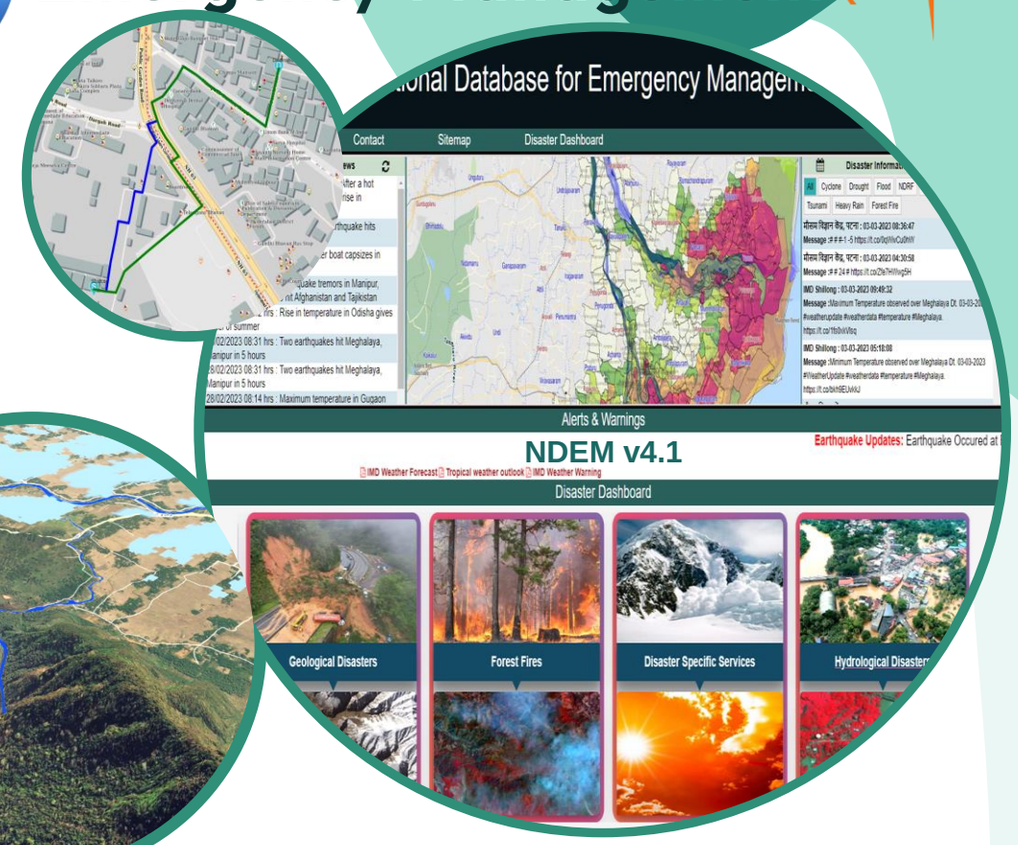
2015
NDEM v2
- Mobile Apps
- MoU With NDRF
- Regional Training Programs

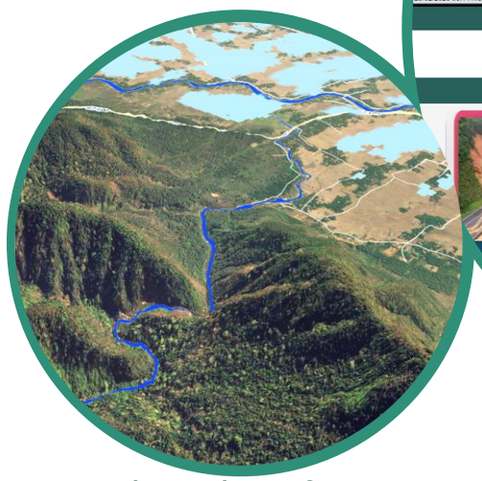
2013
NDEM v1
- Geospatial Viewer
- VPN Access
- GIS Tools

Scan to Open NDEM
https://ndem.nrsc.gov.in

Salient Features of NDEM

- Space based inputs for all Natural Disasters
- Large scale database for entire country
- Inbuilt Communication system SMS , Broadcast, Email
- Multi lingual support for better outreach
- Mobile apps for field level personnel
- Incident Report Mechanism
- Disseminates services of forecasting agencies
- Developme nt of new DSS tools
- 3D Visualisation of Portal





National Database for Emergency Management (NDEM) is a unique Geo-portal to disseminate space based inputs along with services of forecasting organizations addressing all natural disasters in all phases at PAN India level with the amalgamation of multi-scale geospatial database coupled with decision support system tools. At the behest of Ministry of Home Affairs (MHA), Government of India, National Remote Sensing Centre (NRSC), ISRO has established the state-of-art facility at NRSC, Hyderabad with structured framework with multi-institutional participation to assist the decision makers, disaster management officials of all States/UTs, NDRF/SDRF for preparedness, hazard/risk zonation, damage assessment, and emergency response.

Capacity Building

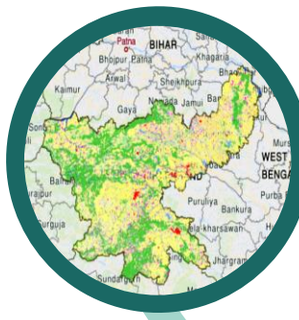
In order to increase the awareness amongst users and for better utilization of NDEM services, training programmes, workshops and mock drills are conducted to Central, State, District disaster management officials and NDRF, SDRF personnel. Capacity building programmes are also conducted in co-ordination\ with GIDM and NIDM. Regional training programmes are conducted across the country on NDEM version 4.0; So far, more than 2000 officials are trained on NDEM version 4.0

NDRF Workshop

SAMANVAY-2022

Visit of IG, NDRF

Visit of Member Secretary, NDMA



National Remote Sensing Centre
Indian Space Research Organization
Department of Space
Government of India

NDEM v4.0

Disaster Dashboard facilitates dissemination of Near Real-Time Disaster Specific Products, Historical Products, Hazard Maps, Early Warnings and alerts and warnings from forecasting agencies in a single platform. . In addition to disaster dashboard, Incident Reporting, DSS Tools, IDRN, PDNA Tools, Resource Management etc., are also integrated in NDEM for effective DRR.

Multi-scale Geospatial Database

Multi-scale database services from State to Panchayat level are enabled for entire country. State wise database is served at 1:50,000 scale for all states/UTs. At 1:10,000 scale services are integrated for 350 districts consisting of 100 multi hazard prone and 250 most vulnerable districts for detailed disaster preparedness and planning. The spatial data is segregated into

Base Layers - Administrative Jurisdictions, Transport Network, Hydrology, Coast Line etc.

Thematic Layers - Land cover, Settlements, Forest, Mining etc.,

Infrastructure Layers - Hospitals, Airports, Transport Nodes, Reservoirs, Dams, Power plants etc.,

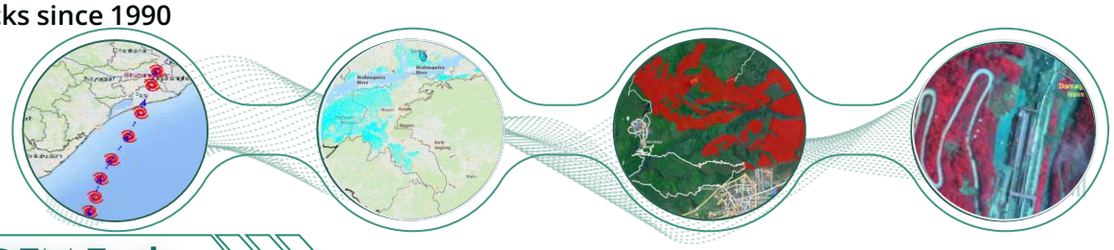
Point of Interest - More than 12 million POIs with quarterly updates are integrated into NDEM platform, which plays a vital role during emergency situation for necessary planning.

The Spatial data is complemented with satellite imagery with resolution ranging from 5.8 to Sub meter level resolution along with Digital Elevation Models.

Disaster Products

Event wise disaster specific services for all possible natural disasters are disseminated through NDEM. These products are provided to NDEM users as Web Map Services (WMS), GeoPDF's, Reports etc.,

Historical disasters products of Cyclones, earthquakes, floods, forest fires, landslides are integrated, which acts as a ready reckoner for planning and decision making. Data is available from the date of initiation of NDEM i.e. 2013 and cyclone data is available with best tracks since 1990



NDEM Tools

DSS Tools

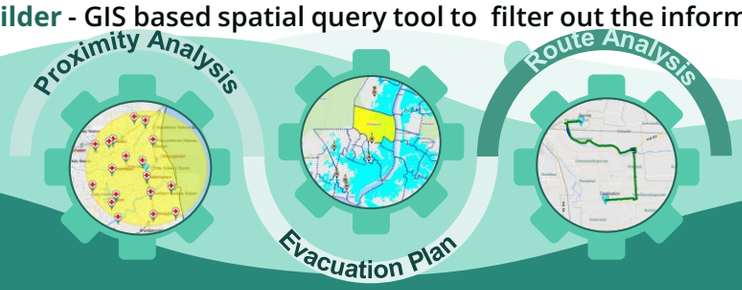
Evacuation Plan - Identification of disaster affected villages with suitable relief shelters for evacuation

Proximity Analysis - Finding emergency facilities at any location within a given buffer(Distance wise).

Route Analysis - Shortest and Optimal path between disaster location to nearby facility.

Multi Layer Analysis - Analysis of disaster specific products w.r.t any administrative boundary.

Spatial Query Builder - GIS based spatial query tool to filter out the information.



Interaction Tools

Mechanism for dynamic communication between field and control room is enabled through SMS. Email and Broadcast Messages. Alerts, warnings are integrated through NDEM portal. A person in the Field can send SMS to the portal as Follows;

NRSC <space> NDEM <space>
"Type your message" to 51969

PDNA Tools

Post Disaster Needs Assessment - is an internationally accepted methodology for determining the physical damages, economic losses, and costs of meeting recovery needs after a natural disaster.

IDRN Tools

India Disaster Resource Network (IDRN) - Database is integrated with NDEM, this module helps to locate relief and rescue equipment from nearby location along with visualization.

Resource Management

Resource Management Tools are used manage the resources in godowns and to perform allocation and reallocation of available resources among the godowns or to the recue team to distribute to the affected population.

Incident Reporting

Report any disaster incident from the field using NDEM v4.0, Mobile app - Relief Management used for situational assessment. All communication is enabled through SMS alerts for quick response.

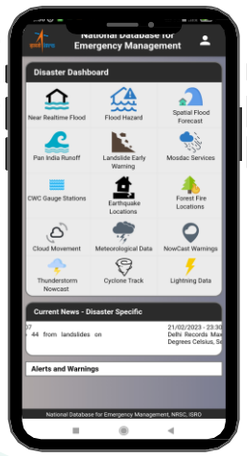
The reported incidents are forwarded to NDRF with approaval mechanism for proceeding to relief and rescue operations.

Three Ways of Reporting An Incident in NDEM

Mobile Apps

Mobile Apps in Android platform are integrated to NDEM framework to support situation assessment, incident reporting, database enrichment. The data received from field is visualised on NDEM portal for further decision making. The received field data is showcased on NDEM viewer at control room for further planning.

NDEM Lite mobile app is developed by including limited but essential services like DSS tools (Proximity & Route Analysis) and basic geospatial services.



NDEM Lite

Relief Management

About Us

The government of India has envisaged a policy to build a safer and disaster resilient India by developing a holistic, multi disaster and technology-driven strategy for disaster management. Ministry of Home Affairs (MHA) has translated this approach into NDEM for taking up ameliorative measures for providing timely information for decision making. NRSC/ISRO is the lead agency to implement and operationalize NDEM project.

Scan QR codes to download Mobile Apps

Contact Us

Director,
NRSC/ ISRO,
Balanagar,
Hyderabad – 500037,
Telangana, India

Phone: + 91 - 40 2388 4257
Email: ndem_ admin@ nrsc. gov.in
Web: https:// ndem. nrsc. gov.in